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FINAL REPORT

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Final Report

During the previous reporting period we implemented a project to develop a simulation capability for the determination of performance of CCSDS-like protocols for space data systems. The work during the present and final reporting period from November 1, 1995 to September 30, 1996 consisted of testing a simulation of the CCSDS protocols to determine their performance under realistic conditions. The work was divided into three parts:

1. We performed verification tests on the parametric model of the CCSDS protocol standards developed earlier on the Block Oriented Network Simulator (BONeS), a powerful software tool that allows the representation of all details of the protocol frame structures and procedures.

2. We continued to run a large number of simulations under various input conditions and for various channel models to determine the performance of the CCSDS protocols.

3. We reviewed a number of CCSDS documents with the purpose of extending our simulation capabilities to include the newly emerging standards.

In addition to the effort described above we continued our participation in a project whose purpose is to develop a capability in the general area of protocol conformance testing and verification. In this field we collaborated with researchers at the National Institute of Standards and Technology. The overall purpose was to contribute to the development of a testing methodology for the evolving CCSDS protocol standards. This work has been completed.